REMARKS/ARGUMENTS

Claims 6-19 are pending in the present application. In this amendment, Applicants have amended claims 6, 11, and 19. Applicants are <u>not</u> conceding that the subject matter encompassed by claims 6, 11, and 19, prior to this Amendment, is not patentable over the art cited by the Examiner. Claims 6, 11, and 19 were amended in this Amendment solely to facilitate expeditious prosecution of the application. Applicants respectfully reserve the right to pursue claims, including the subject matter encompassed by claims 6, 11, and 19 as presented prior to this Amendment and additional claims in one or more continuing applications. Reconsideration of the claims is respectfully requested.

I.   35 U.S.C. § 112, Second Paragraph

The Examiner has rejected claims 6-19 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. This rejection is respectfully traversed.

The Examiner states:

> Claim 6 recites the limitation "each functional unit of said processor" in line 17. There is insufficient antecedent basis for this limitation in the claim. For the purposes of this examination "each functional unit of said processor" is interpreted to refer to the instruction cache and sequencer unit of the processor (see lines 6-7).

Office Action dated April 17, 2008, pages 2-3.

Applicants have amended claims 6, 11, and 19 to describe "<u>wherein the functional unit includes at least the instruction cache, the sequencer unit, and the execution units</u>". Therefore the rejection of claims 6-19 under 35 U.S.C. § 112, second paragraph has been overcome.

II.   35 U.S.C. § 103, Obviousness

The Examiner has rejected claims 6-18 under 35 U.S.C. § 103 as being unpatentable over (US Patent No.6,966,057) Lueh, hereinafter "*Lueh*" in view of (US Patent No.2003/0225917) Partamian et al., hereinafter "*Partamian*" in view of (US Patent No.2004/0030870) Buser, hereinafter "*Buser*" in view of (US Patent No.5,751,942) Christensen et al., hereinafter "*Christensen*" in view of official notice. This rejection is respectfully traversed.

The Examiner takes official notice of identifying a caller of a routine, stating that this is a common use of profiling data. Applicants respectfully request the Examiner to either cite a particular reference that teaches this feature, or withdraw this rejection.

Claims 6 and 19 recite features that are similar to the features of claim 1. Although the argument below refers to the features of claim 1, it is equally applicable to claims 6 and 19. Applicants have amended claim 1 to recite, in part:

> the instruction cache sending a signal to a performance monitor unit responsive to the instruction cache detecting said indicator in said particular one of the plurality of instructions, wherein the particular one of the plurality of instructions is located in a routine, and further wherein the signal is not sent to the performance monitor unit for instructions that are not associated with the indicator, and further wherein the signal indicates a start of the execution of that the particular one of the plurality of instructions, and still further wherein the performance monitor unit is coupled to each functional unit of the processor, wherein the functional unit includes at least the instruction cache, the sequencer unit, and the execution units, and still further wherein said plurality of instructions execute after said indicator has been detected;
>
> the performance monitor unit counting events that are associated with an execution of only said plurality of instructions that are associated with the indicator responsive to the performance monitor unit receiving the signal, wherein said performance monitor counts said events only while said only said plurality of instructions that are associated with the indicator are executing, and wherein said performance monitor begins counting said events only in response to said receipt of said signal

The combination of *Lueh*, *Partamian*, *Buser*, and *Christensen* does not render Applicants' claims obvious because the combination does not teach or suggest these features.

The Examiner asserts that *Lueh* teaches an indicator by teaching trap patching or code patching. *Lueh* teaches implementing breakpointing using one of these techniques, i.e. trap patching or code patching. *Lueh* also teaches both techniques providing a location map, where the original code needs to be replaced with a branch or trap instruction. Breakpointing allows a user to stop program execution in response to detecting a breakpoint.

The Examiner asserts that *Buser* teaches breakpointing in which an indicator is stored in at least one existing spare bit in each one of a plurality of instructions. The Examiner asserts that *Buser* provides an alternate means of providing breakpoints.

In contradistinction to both *Lueh* and *Buser*, Applicants claim detecting the indicator and the plurality of instructions executing after the indicator has been detected. Therefore, both *Lueh*

and *Buser* actually teach away from Applicants' claims, because both references teach <u>stopping</u> the execution of instructions in response to detecting a breakpoint. The combination of *Partamian*, *Christensen*, and official notice does not cure the deficiency of the combination of *Lueh* and *Buser* because the combination does not teach or suggest detecting the indicator and the <u>plurality of instructions executing after the indicator has been detected</u>. Therefore, the combination of *Lueh*, *Buser*, *Partamian*, *Christensen*, and official notice does not teach or suggest Applicants' claims.

Applicants also claim wherein said performance monitor counts said events only while said only said plurality of instructions that are associated with the indicator are executing, and wherein said performance monitor begins counting said events only in response to said receipt of said signal. The Examiner asserts that *Lueh* teaches the performance monitor unit counting events that are associated with an execution of only said plurality of instruction.

Applicants claim counting events<u> only while said only said plurality of instructions that are associated with the indicator are executing</u>. *Lueh* teaches profile data representation 340 including statistics of information during execution compiled and collected by counter 345. *Lueh* does not teach these statistics of information being counted only while certain instructions, i.e. <u>said plurality of instructions that are associated with the indicator, are executing</u>. The combination of *Buser*, *Partamian*, *Christensen*, and official notice does not cure the deficiency of *Lueh* because the combination does not teach or suggest counting events <u>only while</u> said only said <u>plurality of instructions that are associated with the indicator are executing</u>. Therefore, the combination of *Lueh*, *Buser*, *Partamian*, *Christensen*, and official notice does not teach or suggest Applicants' claims.

Applicants claim the performance monitor unit being coupled to each functional unit of the processor, wherein the functional unit includes at least the instruction cache, the sequencer unit, and the execution units. The Examiner asserts that *Lueh* teaches a performance monitor unit being coupled to another code segment or a hardware circuit. Being coupled to a hardware circuit does not teach being coupled to each functional unit, the functional unit includes at least the <u>instruction cache, the sequencer unit, and the execution units</u>. The combination of *Buser*, *Partamian*, *Christensen*, and official notice does not cure the deficiency of *Lueh* because the combination does not teach or suggest the performance monitor unit being coupled to each functional unit, wherein the functional unit includes at least the instruction cache, the sequencer

unit, and the execution units. Therefore, the combination of *Lueh*, *Buser*, *Partamian*, *Christensen*, and official notice does not teach or suggest Applicants' claims.

Furthermore, there is no teaching, suggestion, or incentive to make the needed changes to reach the presently claimed invention. Absent the examiner pointing out some specific teaching or incentive given in *Buser*, *Partamian*, *Christensen*, and official notice to modify *Lueh* to implement the combination of all five references, one of ordinary skill in the art would not be led to modify *Lueh* to reach the present invention when the references are examined as a whole. Absent some teaching, suggestion, or incentive to modify *Lueh* in this manner, the presently claimed invention can be reached only through an improper use of hindsight using Applicants' disclosure as a template to make the necessary changes to reach the claimed invention. The remaining claims depend from one of the independent claims and are patentable as a result of their dependency.

Therefore, the rejection of claims 6-18 under 35 U.S.C. § 103 has been overcome.

II.A.   *Lueh* in view of *Blandy* in view of *Buser, Christensen*, and Official Notice

The Examiner has rejected claim 19 under 35 U.S.C. § 103 as being unpatentable over *Lueh* in view of Blandy et al. (U.S. Patent Number 5,896,538)(hereinafter "*Blandy*") in view of *Buser*, *Christensen*, and official notice. This rejection is respectfully traversed.

Blandy teaches keeping track of the number of times a module is executed by counting CALL and RETURN instructions. *Blandy* also teaches tracking the cycle time for a module.

The combination of *Lueh, Blandy, Buser, Christensen*, and official notice does not render Applicants' claim 19 obvious for the reasons given above regarding the combination of *Lueh, Buser, Christensen*, and official notice, because *Blandy* does not cure the deficiencies of the combination of *Lueh, Buser, Christensen*, and official notice. Therefore, the rejection of claim 19 under 35 U.S.C. § 103 has been overcome.

III. Conclusion

It is respectfully urged that the subject application is patentable over the cited prior art and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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